ENVIRONMENTAL INITIATIVE

CONTEXT SENSITIVE SOLUTIONS AND OTHER ACCOMPLISHMENTS

New York State Department of Transportation

Region 4 - Genesee Valley Region

Monroe-Ontario-Wayne-Livingston-Orleans-Wyoming-Genesee

May 2001

Message from the Regional Director

Bridge and highway designers are often challenged with designing a safe and efficient transportation system that fits within our natural environment. By using a "Context Sensitive" approach to design, this challenge is becoming easier everyday. A context sensitive approach stresses public involvement, fosters creative thinking, promotes partnerships, and looks at the community beyond the pavement — all of which are essential to creating "good" design.

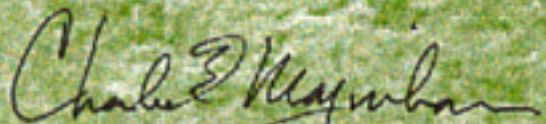
Within the Genesee Valley Region of the New York State Department of Transportation, our designers have graciously accepted this challenge and have taken the partnering approach to heart. We are very proud of the projects featured in this booklet as they demonstrate our on-going commitment to finding context sensitive solutions to complex problems.

Collectively and individually, the region has received design awards for several of these projects. The Department has also received special recognition, receiving national acclaim from other states and the Federal Highway Administration for its Environmental Initiative program, which has instilled an environmental ethic throughout all sectors of the Department.

We believe our work can and must play a major role in enhancing the quality of life for both the motorist and the communities we serve.

After reviewing the projects featured in this booklet, I think you'll agree that this is an exciting time in the transportation industry.

Sincerely,



Charles E. Moynihan, P.E.
Regional Director
Genesee Valley Region
New York State Department of Transportation

Village of Mt. Morris in Livingston County, NY

Over the past several months, the NYSDOT has been working closely with the Village of Mt. Morris on the Route 36 reconstruction project. A series of advisory meetings and public information meetings have been held. The simulations shown here were created to convey project alternatives, including pedestrian crossings, streetscape features, color schemes and SHPO issues. This project is currently in the design phase.

Outreach and Partnering efforts: Village and Town of Mt. Morris, Mt. Morris Advisory Committee, NYS Office of Parks Recreation and Historic Preservation and Federal Highway Administration

Pedestrian Bridge over Genesee River in Town of Mt. Morris and Town of Leicester

These simulations show the existing condition and a bow truss bridge the NYDOT is proposing to construct as part of the Route 36 project. The bridge would utilize the abutments and piers from a former railroad crossing that followed the alignment of the historic Genesee Valley Canal.

The bridge will provide a safe crossing for the Genesee Valley Greenway Trail, primarily serving hikers, bicyclists, equestrians and cross-country skiers.

Outreach and partnering efforts: Friends of the Greenway, Department of Environmental Conservation, Office of Parks Recreation and Historic Preservation, Village and Town of Mt. Morris, Town of Leicester, Livingston County, Rochester Gas and Electric, Mt. Morris Advisory Committee and Federal Highway Administration

Route 21 in the Village of Naples, Ontario County

The reconstruction of Route 21 through the Village of Naples provided the NYSDOT with an opportunity to design beyond the limits of the pavement. Amenities such a brick paving, street trees in tree grates, decorative hand rails, and park improvements were included in the project to complement the historic character of the village.

Outreach and Partnering efforts: Village of Naples, SHPO

Village of Naples in Ontario County

The Route 21 project also involved replacement of a bridge over a well-fished trout stream, an important source of tourism in the Village of Naples. This work was further complicated by the need to replace a water main in the bed of this high-quality stream.

Naples Creek is a high-quality Class AA trout stream.
Note the preservation of the existing stream bank vegetation.

Village of Hilton, Monroe County

Following numerous meetings with the Village of Hilton NYSDOT included decorative lighting, paving details, landscape plantings, the park and ride lot , and a bus shelter as part of an overall Context Sensitive Design. In addition, the roadway was modified to accommodate bicyclists, sidewalks were extended to reach the school and to reach the southern limits of the project. High visibility cross walks were added to address community concerns.

Outreach and Partnering Efforts:
NYSDOT, Village of Hilton, NYS Office of Parks Recreation and Historic Preservation, and Federal Highway Administration

Village of Bloomfield, Ontario County

The highway itself can create or define a historic feature. Pickle Park was identified as a locus by the NYS Office of Parks Recreation and Historic Preservation in the Village of Bloomfield. The triangular park is bounded by streets on all sides. The challenge was to realign minor streets to prevent cut through traffic and provide sidewalks along the highway without negatively impacting the park.

Outreach and Partnering Efforts: Village of Bloomfield, NYS Office of Parks Recreation and Historic Preservation, Bloomfield Garden Club

Reconstruction of St. Paul Street in the City of Rochester, Monroe County

As part of the St. Paul Street reconstruction project, the NYSDOT worked with the City of Rochester to construct a portion of the river trail system. The sidewalk along the street was widened to 16 feet and included two plazas overlooking the Genesee River gorge. The project is located within the Rochester Urban Cultural Park and the City of Rochester Local Waterfront Revitalization Program boundary.

Left: Northern overlook plaza which includes seating, bicycle racks and bus shelter.
Right: Southern overlook plaza provides views down the Genesee River gorge.

Reconstruction of St. Paul Street in the City of Rochester, Monroe County

The St. Paul Street project, with its location atop the Genesee River gorge, allowed the NYSDOT to provide spectacular views of the river and gorge walls. The project also showcased views of downtown Rochester and its unique industrial district.

View from the northern overlook toward the High Falls Historic Industrial District and the Kodak Office Building.

Reconstruction of Main Street and Perrine Street, Village of Dansville, Livingston County

The NYSDOT partnered with many different stakeholders to provide the enhancements and amenities the Village of Dansville desired.

Business owners were concerned over the potential loss of revenues that could result during the construction phase . The local Business Association recommended closing Main Street during construction and providing access from existing parking areas behind the buildings. This idea was implemented, shortening the overall construction period and minimizing business impacts. Pedestrian access was aesthetically enhanced with decorative brick pavers, planting and lighting.

Since the project was completed in 2000, several businesses have rehabilitated their store fronts and many new businesses have opened. There is no question that there is a new optimism for the downtown area as a whole.

Outreach and Partnering Efforts: Village of Dansville, NYSOPRHP, Business Association, FHWA

North Main Street Bridge over Black Creek in Churchville, Monroe County

The North Main Street bridge is a significant visual asset to adjacent Black Creek Park. Since the bridge is eligible for the National Register, rehabilitation of the structure was a priority. A sidewalk was added to the bridge to accommodate pedestrians and to enhance fishing and other park related activities. The result is a bridge that maintains its historic integrity while providing additional functional value.

DOT Coordination with: Monroe County Parks, Village of Churchville, SHPO and the Churchville School District.

Clinton Street Pedestrian Bridge over I-490 in the City of Rochester

APWA AWARD

This award winning solution was recognized by the American Public Works Association as Public Works Project of the Year for 2001. The sweeping design of this structure was necessary to meet American with Disabilities Act standards. Also, the south end of the project is located near the Association for the Blind and Visually Impaired (ABVI), who were one of many groups involved in the public participation process.

DOT Coordination with: City of Rochester, Association for the Blind and Visually Impaired, American Council for the Blind, Regional Center for Independent Living, and Erdman, Anthony and Associates

Veterans Memorial Bridge over Genesee River, Monroe County

Veterans Memorial Bridge carries Route 104 over the Genesee River. The bridge, which is on the National Register of Historic Places, is actually a steel truss structure with a stone veneer. Special efforts were made by the NYSDOT to rehabilitate this aesthetically rich structure without compromising its unique historic character.

The project offered many special design and construction challenges—including construction access, worker safety project staging, and the enormous task of asbestos removal.

Outreach and Partnering Efforts:
NYSDOT, NYSOPRHP, NYSDEC, Monroe County, City of Rochester, Landmark Society, Maplewood Neighborhood Association, FHWA

Veterans Memorial Bridge in Monroe County

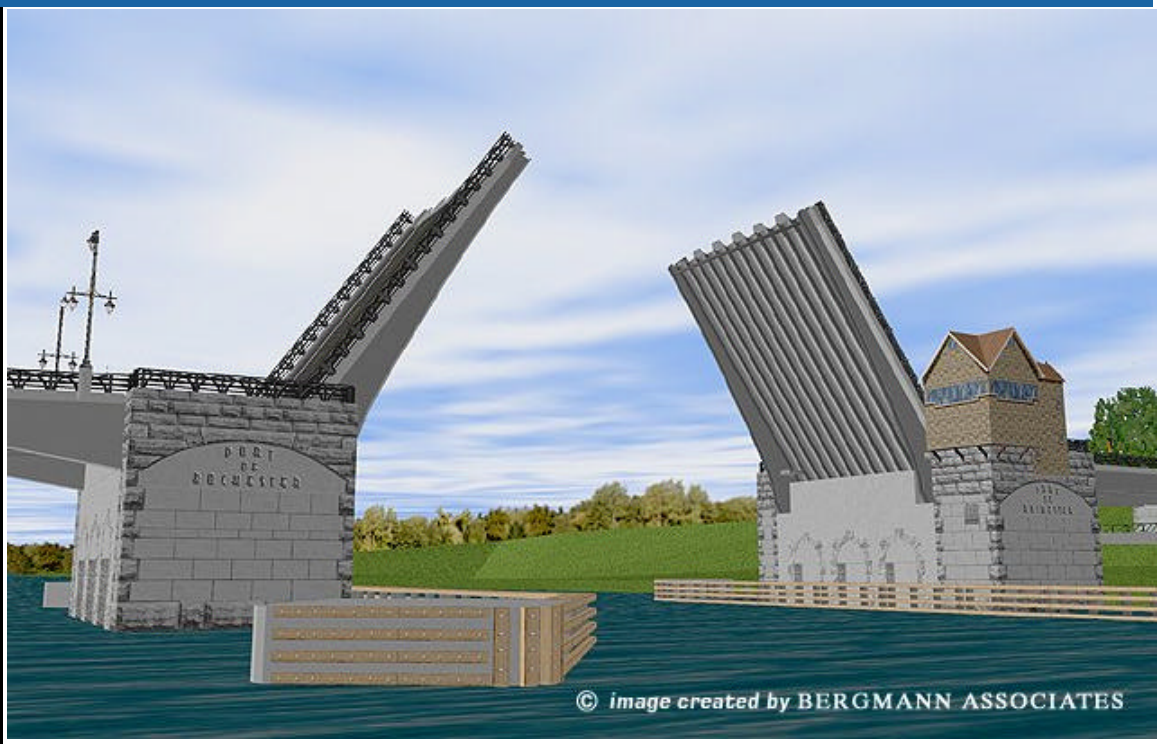
LEFT: The Veterans Memorial Bridge rehabilitation project included accessibility improvements to the pedestrian systems on and adjacent to the bridge.

RIGHT: Decorative lighting was re-established on the bridge and its design was based on review of the original bridge plans.

Left: Sidewalk provides continuous access along Bridgeview Drive.
Right: New light fixtures and railing replicates the original appearance of the bridge

O’Rouke Bridge, Town of Irondequoit, City of Rochester, Monroe County

The bascule style bridge structure was designed to enhance the Port of Rochester’s harbor like qualities. The ambience of the bridge is in keeping with the historic elements existing throughout the Charlotte community.



The City of Rochester, Town of Irondequoit, Monroe County, FHWA and Region 4 New York State Department of Transportation collaborated on the “Gateway Project”

O’Rouke Bridge, Town of Irondequiot, City of Rochester, Monroe County

Public participation was the key to developing bridge that is going to be a “Signature Piece” for the community. Involvement from the public began at the inception of the project and is ongoing today even as the bridge is under construction.

Simulation of the O’Rouke Bridge depicting nighttime appearance with lighting .

Canal Lift Bridge Rehabilitation Projects in Orleans and Monroe Counties

The DOT recently completed projects involving several historic canal lift bridges. These bridges are among the most historically-sensitive and mechanically-complex bridges along the canal system. To ensure their historic design and character were preserved, original bridge features were retained or replaced in-kind without sacrificing safety or modern traffic needs.

The DOT has been recognized for its historic preservation efforts —receiving awards from the Landmark Society and the New York State Seaway Trail.

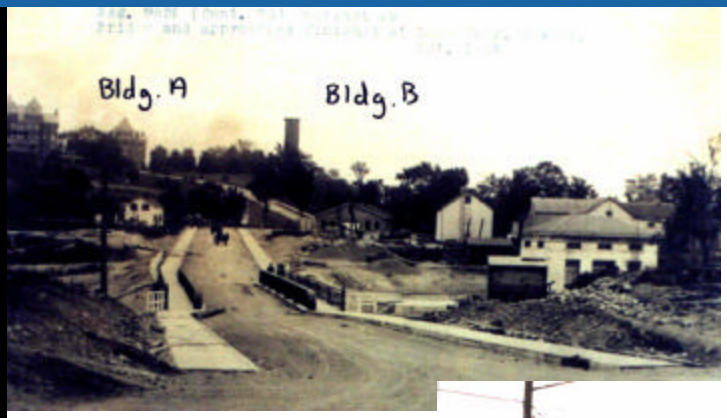
Canal Lift Bridge Projects Under Construction

Preservation efforts included duplicating the original truss and decking patterns; duplicating decorative handrails, newel posts and stair towers; and replacement of vinyl siding and asphalt roof shingles on the control towers with wood clapboards and slate roofing. Also, some of the original brass control panels were donated to a local museum.

Outreach and Partnering Efforts: Involved Municipalities; SHPO; DOT Landscape Architects, DOT Construction Staff

Reconstruction of the North Clinton Street Bridge over the Canal in Newark

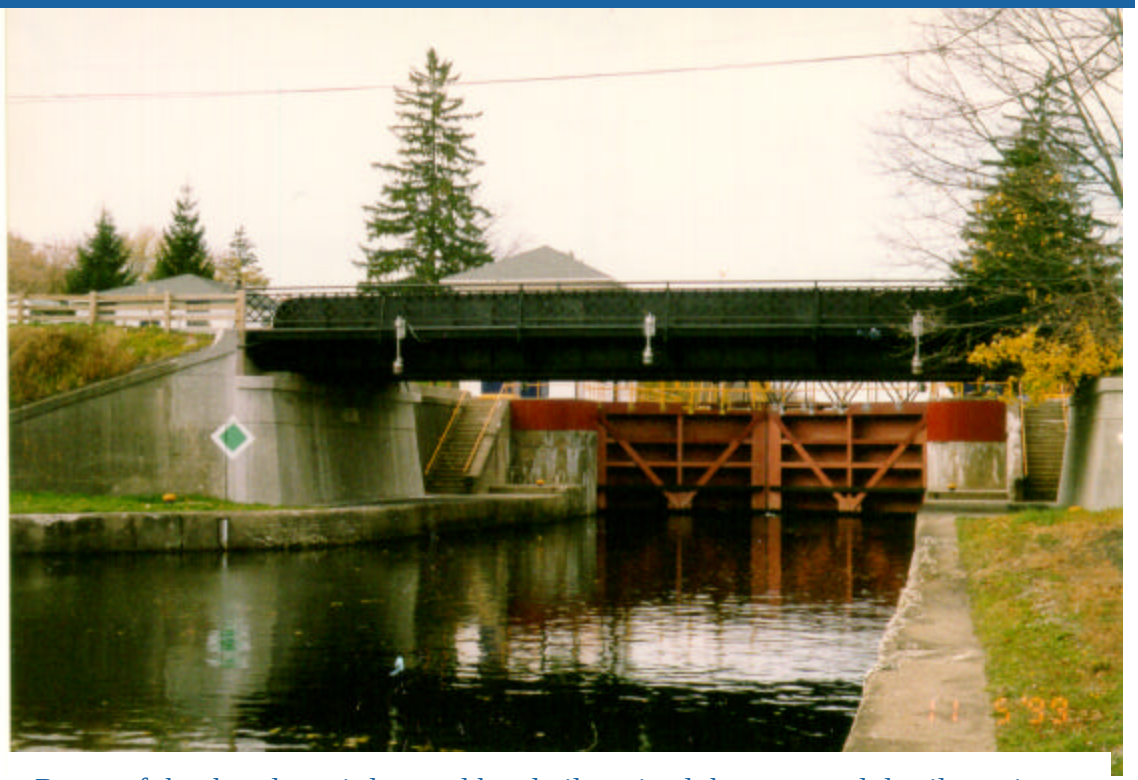
The Village of Newark wanted to improve access to its industrial development district. With the existing North Clinton Street bridge over the Erie Canal too narrow and deteriorated to carry heavy trucks, the NYSDOT worked closely with the village and SHPO to develop a design for a new and wider bridge on the original historic alignment.



Historic photograph of the original bridge construction and the reconstructed bridge from the same viewpoint.

North Clinton Street Bridge with Canal Lock 28-B in the background

Preserving the appearance of the North Clinton Street bridge from the historic canal and Lock 28-B was accomplished through the reuse of the thruplate girders and decorative hand rails. The steel beams which support the road were designed to be hidden behind the original thruplate girders, creating a bridge within a bridge.



Reuse of the thruplate girders and handrail retained the mass and detail consistent with the lock gates and other lock features. Note preservation of concrete abutment and wingwall details for the widened bridge.

Slope Failure along Blossom Road, Monroe County

Blossom Road traverses through an area of highly unstable soils. When these soils became deeply saturated, the slopes above the highway failed, partially blocking the road. Since this route provides a critical link through the community, it was critical that the highway not remain closed for an extended period of time.

This photo shows the slope failure which lead to the temporary closure of Blossom Road

Final Repair of the Blossom Road Slope Failure

DOT used a stand-by emergency contractor to help design and repair the Blossom Road slope failure. Simply lining the slope with stone was not an acceptable design solution due to visual issues. DOT materials experts, landscape architects and highway engineers were brought together to find a reasonable and aesthetic solution. The final product is context sensitive and uses a variety of material to make the repair "fit" into the surroundings.

Outreach and Partnering Efforts: Affected Residents, C.P. Ward (emergency contractor DOT Materials and Soils Staff, DOT Landscape Architects, DOT Construction Staff

Shoreline Stabilization Project at Yanty Marsh, Hamlin Beach State Park

This project involved construction of a 2020 foot long stone revetment structure along the eroded shoreline of Lake Ontario within Hamlin Beach State Park. Since it's construction, the stone revetment has been extremely effective in preventing further erosion of the shoreline, has facilitated the natural restoration of the beach behind the stone, and has prevented further loss of the highly-valuable Yanty Marsh wetland complex.

BEFORE

AFTER

NYSDOT Coordinated with: Town of Hamlin, NYS Office of Parks Recreation and Historic Preservation, NYS Department of Environmental Conservation, US Army Corps of Engineers, and the Federal Highway Administration

Wetland Creation along Route 104 in Wayne County

When it was determined that the Route 104 widening project would result in the loss of six acres of protected wetland, the DOT worked closely with the NYSDEC and the Army Corps of Engineers to design and create 22 acres of high quality replacement wetland. While the regulatory agencies were only requiring the DOT to provide six acres of replacement wetland, the design team was able to provide almost four times that amount.

Newly-created wetland along the Route 104 corridor

Route 104 Wetland Mitigation Areas Under Construction

The created wetlands include a broad range of water depths, a high diversity of plants, and are providing the desired functions of wildlife habitat, flood storage, and sediment/nutrient retention. Since the wetlands were created adjacent to a series of existing wetlands, the project has formed a nearly contiguous and highly functional wetland complex.

Involved Parties: NYSDEC; Army Corps of Engineers; DOT Landscape Architects and Environmental Staff; and DOT Engineering and Construction Staff

Rochester Area Herbicide Alternative Demonstration Project

In response to state and national concerns by the public regarding the use of herbicides, the DOT has been investigating alternatives for controlling vegetation under guiderail along State highways. Region 4's pursuit of alternatives to herbicides is an example the DOT's Environmental Initiative efforts to incorporate environmental protections into capital programs and operating practices.

In 1998, the DOT began its investigation into finding alternatives to the use of herbicides. Representatives from the Environmental Advocates, New York Coalition for Alternatives to Pesticides (NYCAP), and New York Public Interest Research Groups (NYPRIG) worked with the DOT in gathering information and evaluating possible alternatives. In addition, DOT Region 4 has been working closely with a local group—Rochestarians Against the Misuse of Pesticides (RAMP). Several alternatives are currently being tested and evaluated in Rochester as part of the study.

Alternatives currently being studied include:

-Vegetation shields made of recycled materials
-Vegetation barrier made of fabric
-Planting of low growing wildflowers
-Manual cutting of vegetation
-Traditional herbicide applications
-Extending asphalt under guide rail

Alternatives under consideration include:

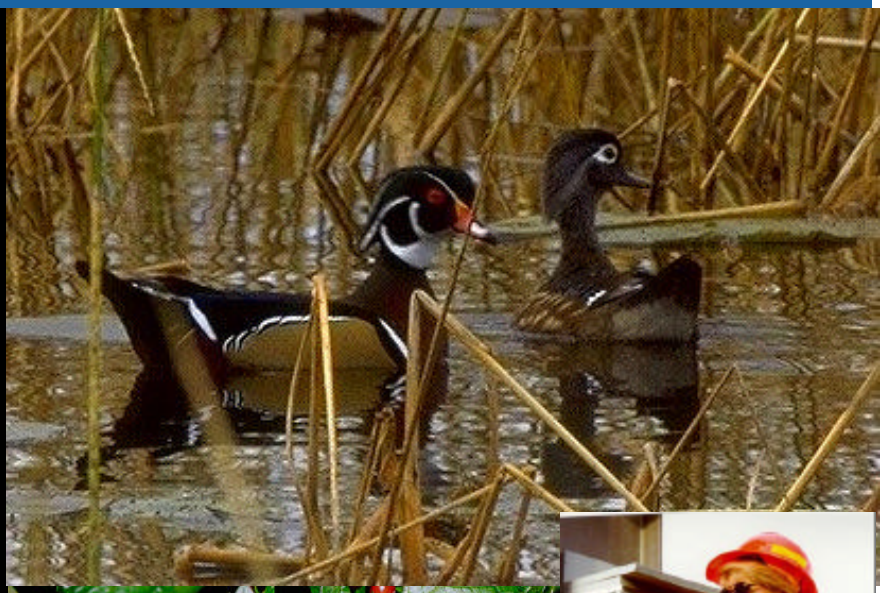
-Organic herbicides
-Polypavement
-Steam
-High tech alternatives such as laser, microwave and sonic

Outreach and Partnering Efforts: Environmental Advocates, New York Coalition for Alternatives to Pesticides, New York Public Interest Research Group, Rochestarians Against the Misuse of Pesticides, NYSDEC

Wildlife Plantings and Nest Box Project along Lake Ontario State Parkway

In 1998, the Nature Conservancy made Region 4 DOT aware of the need for improved bird species habitat along Lake Ontario. The lake shoreline is nationally recognized as an important migratory route and wintering area for many bird species, both songbirds and birds of prey.

As stewards of the highway, Region 4 was responsive to the Nature Conservancy's concerns. The Lake Ontario State Parkway, with more than 30 miles of expansive right-of-way and a geographic location along the shoreline, presented an ideal opportunity for the Department. The region designed a project to improve the available nesting habitat and food sources for kestrels, wood ducks and many other species, while improving the aesthetics of the corridor for the traveling public and adjacent landowners.



The project began in Spring 2000 and involved the following: removal of approximately 41 acres of unsightly, scrub shrub vegetation in specific areas of the Parkway right-of-way; mowing the areas to reestablish open meadow; selectively thinning 2.5 acres of woody vegetation within the Braddock's Bay Management Area; planting numerous clusters of fruit and nut bearing trees and shrubs; and installing six nest boxes for wood ducks on trees and 25 nest boxes for kestrels on highway sign posts. At selected locations, additional vegetation was planted to enhance the aesthetic character of the Parkway and to buffer adjacent landowners.

Region 4 invited several state agencies and environmental and birding organizations to participate in the planning and design process. The successes learned from this project have been shared with transportation agencies as far away as Minnesota, Florida and Georgia.

Outreach and Partnering Efforts: NYSDEC, Office of Parks Recreation and Historic Preservation, US Army Corps Of Engineers, Federal Highway Administration, Cornell University, Nature Conservancy, Braddock's Bay Raptor Research Center, Braddock's Bay Bird Observatory, National Audubon Society, Town of Greece, Volunteers of the DOT staff and a special thanks to the Boy Scouts—Troop 165 of the Otetiana Boy Scout Council